WATER RESOURCES RESEARCH GRANT PROPOSAL

Project ID: 2005ND74B

Title: Benthic Macroinvertebrate Stoichiometric Implication for North Dakota and Minnesota Fisheries

Project Type: Research

Focus Categories: Ecology, Sediments, Wetlands

Keywords: ecological stoichiometry, benthic invertebrates, lakes, fisheries

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Congressional District: 1

Principal Investigator:
Malcolm George Butler
North Dakota State University

Abstract

According to “ecological stoichiometric theory”, consumer communities may be constrained by the ratios of essential nutrients available in prey resources. Fish communities in lakes may thus reflect the types of foods available, in addition to other environmental constraints. Most fish species are highly dependent on benthic organisms, yet little is known about nutrient composition of benthic invertebrates, in contrast to planktonic prey where such stoichiometric constraints on fishes have been documented. In this study, we will explore variation in the relative amounts of C, N, and P in major benthic invertebrate taxa found in North Dakota and Minnesota lakes. By analyzing data on benthic community composition and stoichiometry, along with environmental characteristics of lakes with known fish communities, we hope to determine the relative importance of benthos stoichiometry for fisheries management.